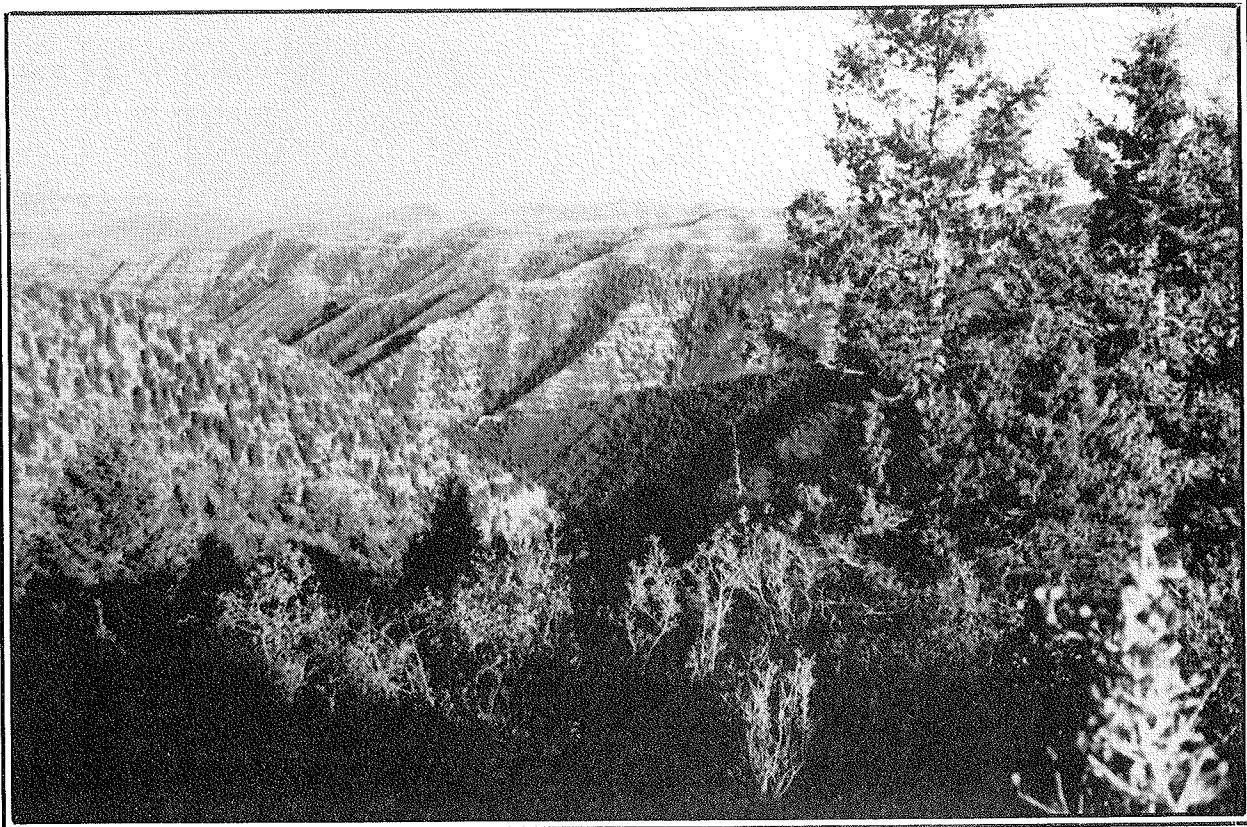


# Flume Canyon WSA



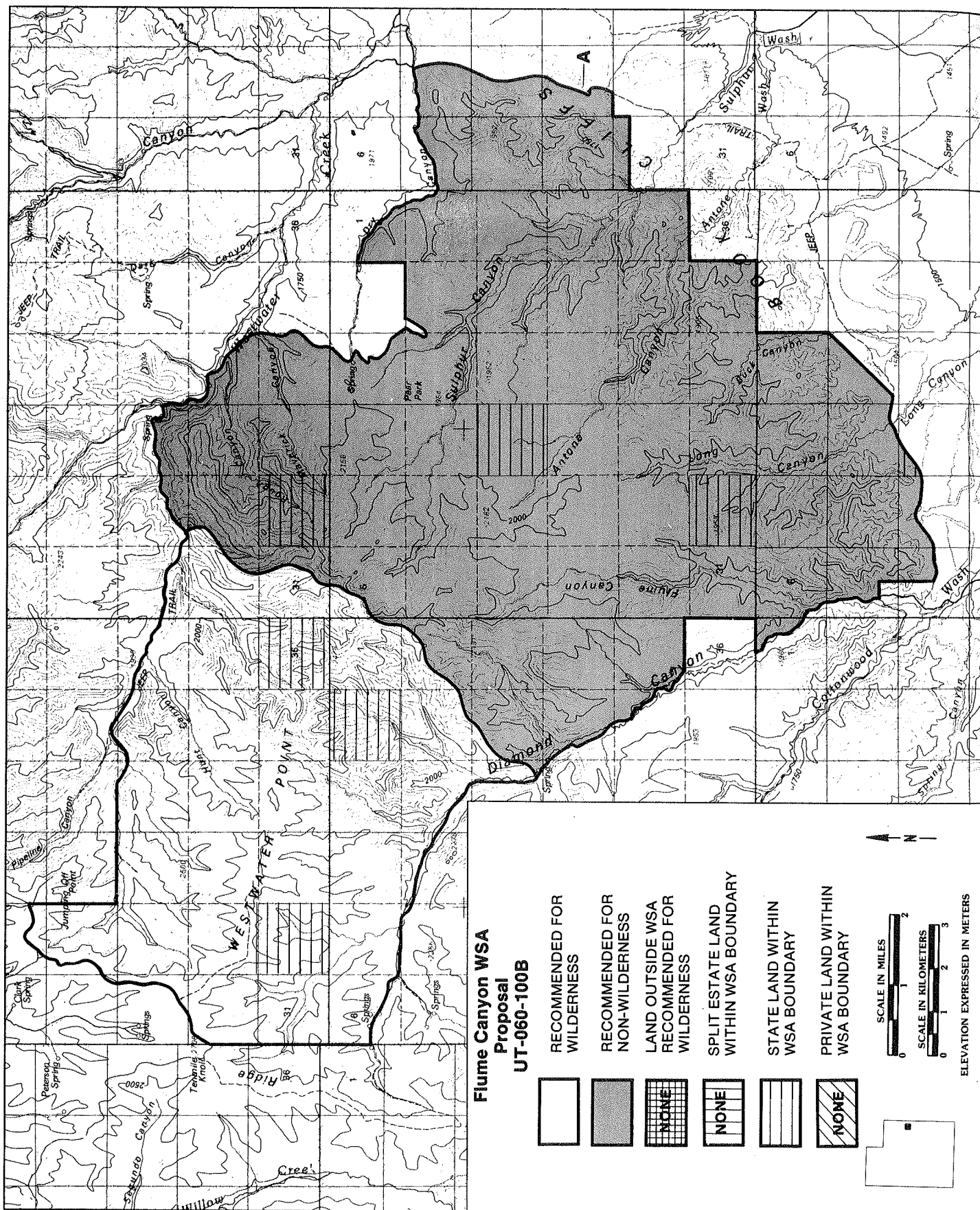
# FLUME CANYON WSA

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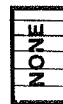

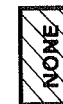
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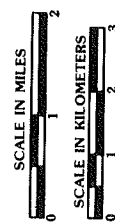
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## Flume Canyon WSA Proposal UT-060-100B

-  RECOMMENDED FOR WILDERNESS
-  RECOMMENDED FOR NON-WILDERNESS
-  LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS
-  SPLIT ESTATE LAND WITHIN WSA BOUNDARY
-  STATE LAND WITHIN WSA BOUNDARY
-  PRIVATE LAND WITHIN WSA BOUNDARY



ELEVATION EXPRESSED IN METERS

October 1991

# FLUME CANYON WILDERNESS STUDY AREA

## 1. THE STUDY AREA: 50,800 acres

The Flume Canyon Wilderness Study Area (WSA) (UT-060-100B) is in Grand County, about 43 miles northeast of Green River, Utah (population 1,048), and is contiguous with the Spruce Canyon WSA (UT-060-100C), to the southwest. The WSA is one of seven contiguous WSAs in the Book Cliffs. The study area is about 10 miles from north to south and 14 miles from east to west. Private and State land and the edge of the Book Cliffs form the southeastern boundary of the WSA and trails and scattered State lands form the western and northern boundaries.

The southwestern edge of the study area is at the bottom of Diamond Canyon. The western part of the WSA is adjacent to a block of State land which is roadless (see Map). There are 50,800 acres of public land administered by the Bureau of Land Management (BLM) in the WSA. Six State sections (3,812 acres) are in-held in the WSA; three of these (1,928 acres) are in the portion recommended for wilderness designation.

There are no private or split-estate in-holdings in the WSA (see Table 1).

**TABLE 1**  
**LAND STATUS AND ACREAGE SUMMARY IN THE STUDY AREA<sup>a</sup>**

<b>WITHIN THE WSA</b>	<b>ACRES</b>
BLM (surface and subsurface)	50,800
Split-Estate (BLM surface only)	0
In-holdings (State, Private)	3,812
<b>Total</b>	<b>54,612</b>
<b>WITHIN THE RECOMMENDED WILDERNESS BOUNDARY</b>	
BLM (within the WSA)	16,495
BLM (outside the WSA)	0
Split-Estate (within the WSA)	0
Split-Estate (outside the WSA)	0
<b>Total BLM land recommended for wilderness</b>	<b>16,495</b>
In-holdings (State, private)	1,928
<b>WITHIN THE AREA NOT RECOMMENDED FOR WILDERNESS</b>	
BLM	34,305
Split-Estate	0
<b>Total BLM land not recommended for wilderness</b>	<b>34,305</b>
In-holdings (State, Private)	1,884

Source: BLM File Data

<sup>a</sup> The Appendix is a detailed table of in-holdings included within the portion of the WSA recommended for designation.

Westwater Point, a spur jutting almost due east from the crest of the Book Cliffs, is a divide in the central-western part of the WSA from which steep, narrow canyons radiate southward to Diamond Canyon; southeastward, to drain through alluvial fans at the base of the Book Cliffs, towards the Sulphur Creek drainage; and northeastward into

the Westwater Creek drainage. Most of these drainages are ephemeral, and all are tributaries to the Colorado River, to the southeast. Flume Canyon slopes directly south into Diamond Canyon. Westwater Point is a narrow ridge that is nearly flat in the west and becomes more deeply dissected eastward. It terminates in the eastern half of the WSA

## FLUME CANYON WILDERNESS STUDY AREA

in a hilly benchland above the lower slopes of the Book Cliffs. Elevations range from 5,100 feet in Long Canyon, at the southern tip of the WSA, to 8,500 feet on Westwater Point. Vegetation is almost entirely pinyon-juniper, mixed with Douglas fir, aspen, and mountain shrub, and Douglas fir forest.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Utah BLM Statewide Wilderness Environmental Impact Statement (EIS) finalized in November 1990. Three alternatives were analyzed in the EIS: a partial wilderness alternative where 16,495 acres would be designated as wilderness and 34,305 acres would be released for uses other than wilderness, which is the recommendation in this report; a no wilderness (no action) alternative; and an all wilderness alternative.

2. RECOMMENDATION AND RATIONALE:  
16,495 acres  
(recommended for wilderness)  
34,305 acres  
(not recommended for wilderness)

The recommendation for this WSA is to designate 16,495 acres as wilderness and to release the remaining 34,305 acres for uses other than wilderness. Designation of the entire area as wilderness is considered to be the environmentally preferable alternative as it would result in the least change from the natural environment over the long term. The alternative selected, however, would be implemented in a manner which would utilize all practical means to avoid or minimize adverse environmental impacts. The recommendation will further apply to any additional in-holding acreage acquired through purchase or exchange with willing owners. The Appendix lists all in-holdings and provides additional information on acquisition.

All of the recommended area is in a natural condition and has outstanding opportunities for solitude and primitive recreation. Scenic, ecological, and wildlife aspects of the WSA are excellent. Oil and gas resources may exist in the area but the rugged terrain restricts access, and other locations in the vicinity, including the portion of the WSA that is not recommended, are considered more feasible for drilling. No significant conflicts exist with interests in other minerals or other land and resource uses. Wilderness values outweigh the importance of mineral values in this portion of the WSA when access factors are considered.

Although the southeastern two thirds of the WSA is also in a natural state and has outstanding opportunities for solitude and primitive recreation, there is potential for economic recovery of oil and gas. Portions of three known geologic structures are in the area and about 82 percent of the area is held by production on existing leases, although the producing wells are outside the WSA. The oil and gas potential outweighs the wilderness considerations in this portion of the WSA.

### 3. CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATION

#### Wilderness Characteristics

##### A. Naturalness

Naturalness is defined as an attribute in which the evidence of man is substantially unnoticeable to the average visitor and where minor imprints of man exhibit no cumulative impact that is substantially noticeable. Overall, more than 99 percent (50,781 acres) of the WSA meets the wilderness criterion for naturalness. Much less than 1 percent (19 acres) of the WSA does not. As much as 50 percent (25,400 acres) of the WSA could be considered pristine. In most areas visitors would have the impression that the WSA has never been altered by man.

As a result of mapping errors made during the wilderness inventory, three ranch buildings, three corrals, a water impoundment, an irrigation ditch, several large water flumes, and several smaller structures currently in use near the Cottonwood Ranch were included in the Flume Canyon WSA. All of these structures were constructed prior to the passage of FLPMA. With the exception of the water flumes and irrigation ditch, which have pre-FLPMA rights-of-way, all of these structures were in trespass on public land administered by BLM. The area disturbed by these structures totals approximately 19.3 acres. The three ranch buildings are on 6 acres in T. 19 S., R. 23 E., Sec. 7. The other structures are in the western portions of T. 19 S., R. 22 E., Secs. 6 and 7 and are within a discontinuous corridor, varying from 15 to 200 feet in width, that begins north of the ranch buildings and trends north-northwest for about 1.75 miles.

Other human imprints within the WSA are associated with grazing and mineral exploration, are not substantially noticeable within the WSA as a whole, and are

## FLUME CANYON WILDERNESS STUDY AREA

capable of being reclaimed naturally. These imprints include: (1) a vehicular way approximately 3 miles long to Westwater Point (pre-FLPMA); (2) approximately 4.5 miles of vehicular ways in Long Canyon; (3) an abandoned vehicular way approximately 1.5 miles long; (4) two abandoned drill pads that affect 5 acres each (pre-FLPMA); and (5) a rehabilitated road 3.5 miles long and a rehabilitated drill pad covering 5 acres. Overall, grazing has taken place on ridges and in canyon bottoms, but not on the steep side slopes. Approximately 25,000 acres have been grazed. Mineral exploration has occurred in side canyons off Diamond and Westwater Canyons involving approximately 800 acres.

### B. Solitude

The entire WSA meets the criterion for outstanding solitude. It is possible to find secluded areas within the WSA because of the dissected terrain; isolation; areas of forest cover; many possible routes of travel; and the size of the unit.

The rugged terrain provides screening which obscures sights and sounds of others within the WSA. The vertical separation between ridgetops and canyon bottoms of as much as 1,000 feet enhances the ability to find seclusion. This characteristic is more pronounced in the northwestern portion of the WSA.

The effectiveness of vegetation screening is less on steep slopes because of wide bands of exposed rock. Douglas fir forest in the higher elevations is relatively dense and provides good screening. Areas of dense mountain shrub provide screening but effectiveness is largely a function of overall height. People on the canyon bottoms with sagebrush generally are noticeable from the slopes and ridgetops above.

Sights and sounds from outside the WSA primarily result from oil and gas exploration around the WSA perimeter. Roads, pipelines, drilling activities, and pumping facilities are a source of visual impact, noise, and dust. Views from the southeast part of the WSA include drilling activities in the Cisco Desert outside the WSA and Interstate Highway 70 (I-70). These are far enough from the WSA that they do not necessarily detract from solitude. Vistas to the southeast from high points would be adequate to give a visitor the feeling of vastness.

The deeply incised, branching drainages within the WSA provide many travel routes which allow dispersion of recreational use.

### C. Primitive and Unconfined Recreation

Outstanding opportunities for primitive recreation are present throughout the WSA. The WSA provides opportunities for hunting, hiking, backpacking, camping, and rock scrambling. The many drainages and the dissected terrain provide numerous potential hiking routes up canyon bottoms and along ridgetops. Steepness and the height of side slopes limit potential hiking routes into and out of canyons, but increase the challenge.

### D. Special Features

Rock formations and color contrasts provide scenic value. Erosional features of scenic interest within the WSA include pinnacles, balanced rocks, alcoves, overhangs, potholes, and arches.

The WSA provides habitat for animals that avoid areas of human occupation and has year-round populations of cougars, elk, and black bear, which are wildlife species associated with wilderness. Black-footed ferrets, listed as endangered species, and six other animal species considered sensitive may also occur in the WSA. One plant species that is considered sensitive may occur in the WSA. Refer to Appendix 4 and the Affected Environment, Vegetation and Wildlife Including Special Status Species sections of the Utah BLM Statewide Wilderness Final EIS for additional information.

### Diversity in the National Wilderness Preservation System (NWPS)

#### A. Expanding the Diversity of Natural Systems and Features as Represented by Ecosystems

Wilderness designation of this WSA would add a combination of potential natural vegetation (PNV) ecosystems not presently represented in the NWPS.

PNV is the vegetative type that would eventually become climax vegetation if not altered by human interference, and is not necessarily the vegetation that is currently present in an area. The WSA is in the Colorado Plateau Province/Ecoregion and the Rocky Mountain Forest Province/Ecoregion.



# FLUME CANYON WILDERNESS STUDY AREA

The PNV in the WSA is juniper-pinyon woodland (41,110 acres) and mountain mahogany-oak scrub (9,690 acres). The juniper-pinyon woodland PNV type is represented in the NWPS nationally and in Utah and in other BLM study areas both in and outside of Utah, but the mountain mahogany-oak scrub type is not represented at all in the NWPS. Its only representation is in 4 other WSAs, all in Utah. This information is summarized in Table 2 from data compiled in December 1989.

## B. Assessing the Opportunities for Solitude or Primitive Recreation within a Days Driving Time (5 Hours) of Major Population Centers

The WSA is within a 5-hour drive of the Salt Lake City-Ogden, Utah and the Provo-Orem, Utah, standard metropolitan statistical areas. Table 3 summarizes the number and acreage of designated wilderness and other BLM study areas within a 5-hour drive of these population centers.

TABLE 2  
ECOSYSTEM REPRESENTATION

BAILEY-KUCHLER CLASSIFICATION (PNV)	NWPS AREAS		OTHER BLM STUDIES	
	AREAS	ACRES	AREAS	ACRES
NATIONWIDE (COLORADO PLATEAU PROVINCE)				
Juniper-Pinyon Woodland	11	1,401,745	84	2,123,450
Mountain Mahogany-Oak Scrub	0	0	4	27,016
UTAH (COLORADO PLATEAU PROVINCE)				
Juniper-Pinyon Woodland	1	26,000	53	1,685,643
Mountain Mahogany-Oak Scrub	0	0	4	27,016

Source: BLM File Data.

TABLE 3  
WILDERNESS OPPORTUNITIES FOR RESIDENTS OF MAJOR POPULATION CENTERS

POPULATION CENTERS	NWPS AREAS		OTHER BLM STUDIES	
	AREAS	ACRES	AREAS	ACRES
Salt Lake City-Ogden, Utah	11	1,099,962	78	2,208,875
Provo-Orem, Utah	11	721,793	90	2,736,068

Source: BLM File Data.

## C. Balancing the Geographic Distribution of Wilderness Areas

The Flume Canyon WSA could contribute to balancing the geographic distribution of wilderness areas within the NWPS. As of January 1987, the NWPS included 44 areas comprising 3,443,330 acres in Utah and in Colorado, the adjacent state nearest the WSA.

A Flume Canyon Wilderness would supplement the NWPS in the Uinta Basin Section of the Colorado Plateau where there are no established wilderness areas. There are two designated wilderness areas within 100 miles of the WSA. To the

south is the 45,000-acre Dark Canyon Wilderness (U.S. Forest Service [FS]) and to the east in Colorado is the 11,180-acre Black Canyon of the Gunnison Wilderness (National Park Service [NPS]).

Manageability (The area must be capable of being effectively managed to preserve its wilderness character.)

The portion of the WSA that is recommended for wilderness can be managed to preserve values now present in the area. Livestock grazing and maintenance of existing fences would continue but would not significantly affect wilderness val-

## FLUME CANYON WILDERNESS STUDY AREA

ues in the area. There are 360 acres of pre-FLPMA and 695 acres of post-FLPMA oil and gas leases in the WSA. About 20 acres of the pre-FLPMA and 160 acres of the post-FLPMA leases are in the area recommended for wilderness. Because of the oil and gas potential of the WSA BLM projects that leases will be explored and may be developed in the recommended wilderness following designation. However, because of the limitations of the terrain and the small acreage under lease, it is expected that only about 7 acres of the recommended area will be disturbed. This would not affect the overall manageability of the area. There are presently no mining claims in the recommended area, and the probability of future valid claims is low.

Provision of access to and activities on three sections (1,928 acres) of in-held State land centrally located in the portion of the WSA recommended as wilderness could affect wilderness values and uses in the surrounding wilderness. BLM would be obligated to provide access to the State sections and could not administratively control development on State land. Because of the rugged terrain in the recommended area oil and gas activities on State land may be restricted.

It would be more difficult to manage the area nonrecommended area for its wilderness values. There are 340 acres of pre-FLPMA, 535 acres of post-FLPMA oil and gas leases and three in-held State sections in this area where the terrain is more accessible. BLM projects that up to 19 acres of the nonrecommended area would be disturbed by oil and gas activities, including 8 miles of new road, following wilderness designation.

### Energy and Mineral Resource Values

The U.S. Geological Survey (USGS) and the U.S. Bureau of Mines (USBM) prepared a mineral assessment report for the Flume Canyon WSA (USGS Bulletin 1753-A, Robert P. Dickerson, et al., 1990). The report indicates that there is a moderate resource potential for tar sand in the northwestern part of the WSA, and a low potential for tar sand and for resources of oil shale, gilsonite, uranium and other metals, and geothermal energy. The WSA has a high resource potential for undiscovered deposits of coal and for undiscovered oil and gas. There are no known deposits of industrial minerals in the WSA.

### Impacts on Resources

The comparative impact table (Table 4) summarizes the effects on pertinent resources for alternatives considered including designation or nondesignation of the area as wilderness.

### Local Social and Economic Considerations

With BLM's recommended partial wilderness designation, present economic trends and conditions would not be significantly affected. The length of future oil and gas employment in the WSA would be reduced because oil and gas could not be developed on 32 percent of the area. Livestock sales and grazing fees would not be affected. Potential annual Federal and State revenues from oil and gas leasing fees could be reduced by \$3,350. Annual royalty payments from leases in the nondesignated area and on pre-FLPMA leases in the designated area would not be reduced, but potential royalties of up to \$100,000 per year from wells on 32 percent of the WSA would be foregone. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. Federal revenues from commercial recreation fees (currently \$150 annually) would continue and probably increase.

### Summary of WSA-Specific Comments

Public involvement has occurred throughout the wilderness review process. Comments received during the early stages of the EIS preparation were used to develop significant study issues and alternatives for the ultimate management of the WSA.

During formal public review of the Draft EIS, a total of 106 inputs specifically addressing this WSA were received from 107 commenters, including oral statements received at 17 public hearings on the EIS. Each letter or oral testimony was considered to be one input. Duplicate letters or oral statements by the same commenter were not counted as additional inputs or signatures. Each individual was credited with one signature or testimony regardless of the number of inputs. In general, 95 commenters supported wilderness designation for part or all of the WSA, while five commenters were opposed. Six commenters addressed the relative merits of the EIS but took no formal position on wilderness designation.

## FLUME CANYON WILDERNESS STUDY AREA

Those favoring wilderness commented on the wilderness values and opportunities in the WSA and stated that there are not or should not be any conflicts with mineral interests. The majority of those commenting in favor of wilderness were about equally from other states and urban Utah. Of particular concern was the need to protect wildlife and wildlife habitat and wilderness values in the WSA and complement wilderness management of nearby areas.

Those opposing wilderness were concerned that wilderness would prohibit mineral exploration and development and restrict livestock grazing management and public access. Most of those opposing wilderness designation were from rural Utah.

No Federal agencies commented on the Draft EIS for this WSA or expressed an opinion regarding wilderness designation.

No comment letters were received on the Final EIS.

There are six State sections (3,811.8 acres) in the WSA. In commenting on the Draft EIS, the State of Utah expressed general opposition to wilderness designation, but did not take a definite position regarding wilderness designation for the WSA. The State commented that the Flume Canyon WSA has moderate wilderness values and moderate conflicts compared with the other WSAs in the region. According to the State, there are conflicts with moderate levels of oil and gas, coal resources, and livestock interests. The State also noted that parts of the WSA along with the adjacent Spruce and Coal Canyon WSAs could be considered for Areas of Critical Environmental Concern to protect wildlife if the WSA is not designated wilderness. In commenting on the Draft EIS, the State said that the information about oil shale and tar sand should be more detailed, that geologic structure has little effect on oil shale deposits; and that metalliferous black shales like the Mancos Shale, are being researched as a potentially significant source of metals.

The Flume Canyon WSA is in Grand County. The Grand County Master Plan does not specifically address the WSA. The plan generally emphasizes continuation of present uses and maximizing mineral development. The Grand County Commission is opposed to wilderness designation and has endorsed the Consolidated Local Government Response to Wilderness that opposes wilderness designation of BLM

lands in Utah. In commenting on the Draft EIS, the Commission stated that the Flume Canyon WSA cannot be effectively managed as wilderness because of in-held and adjacent State lands, and pre-FLPMA oil and gas leases. The Commission also noted that designation of the area as wilderness would be contrary to the County's overall planning goals and that the geology and ecology of the area is repetitious of the adjacent State roadless area and tribal lands that are managed as roadless.



# FLUME CANYON WSA

Table 4  
Comparative Summary of Impacts by Alternative

		Alternatives	
Issue Topic	Recommendation	No Action/No Wilderness	All Wilderness (50,800 Acres)
	Partial Wilderness (16,495 Acres)		
Impacts on Wilderness Values	Wilderness values would be preserved overall in the designated area which is approximately 32 percent of the WSA. In the foreseeable future, naturalness and opportunities for solitude and primitive recreation would be directly lost on 124 acres because of oil and gas exploration and development, construction of access roads to in-held State lands, and watershed projects. Opportunities for solitude and primitive recreation would be indirectly reduced in quality on up to 6,096 acres. Almost all of the impact would be in the nondesignated area. Special features would generally not be significantly affected. Some wilderness dependent species would temporarily leave the area. Vehicular use of 4.5 miles of ways and up to 14 miles of new roads in the non-designated area would detract from opportunities for solitude and primitive recreation.	Wilderness values would not be protected by wilderness designation and loss would occur as intrusions increase. In the foreseeable future, naturalness and opportunities for solitude and primitive recreation would be directly lost on 184 acres because of oil and gas exploration and development, construction of access to in-held State lands, and watershed projects. Opportunities for solitude and primitive recreation would be indirectly reduced in quality on up to an additional 7,620 acres of the WSA. Special features would generally not be significantly affected. Some wilderness dependent wildlife species would leave the area during the period of disturbance. Vehicular use of 6 miles of way and up to 41 miles would detract from opportunities for solitude and primitive recreation.	Wilderness designation would preserve overall the wilderness values in the WSA. In the foreseeable future, naturalness and opportunities for solitude and primitive recreation would be directly lost on 34 acres and indirectly reduced in quality on up to an additional 1,524 acres because of construction of access to in-held State lands, oil and gas exploration and development on pre-FLPMA leases and watershed projects. Special features generally would be preserved overall.
Impacts on Vegetation	Approximately 0.2 percent (124 acres) of the vegetation in the WSA would be modified. Vegetation types and special status plant species would not be significantly modified with this alternative because the potential for major disturbance would be reduced on 32 percent of the WSA. In addition, protective measures would be required on the remainder of the area.	Approximately 0.4 percent (184 acres) of the vegetation in the WSA would be modified with this alternative. The Category 2 candidate species that may be located in the WSA would not be significantly affected because protective measures would be required.	Vegetation types and special status plant species would be protected because potential surface disturbance would be reduced from 184 acres to 34 acres and the area would be closed to ORV use.

## FLUME CANYON WSA

**Table 4 (Continued)**  
**Comparative Summary of Impacts by Alternative**

Issue Topic	Alternatives		
	Recommendation Partial Wilderness (16,495 Acres)	No Action/No Wilderness	All Wilderness (50,800 Acres)
Impacts on Mineral and Energy Exploration and Production	Partial wilderness designation would preclude or constrain potential exploration and development of an unknown portion of 10 to 50 million barrels of oil and 60 to 300 billion cubic-feet of natural gas that may occur in the WSA because only 68 percent of the WSA could be developed for oil and gas. Loss of exploration and development opportunities for other mineral and energy resources would not be significant because the probability of development is low even if a portion of the WSA is not designated wilderness.	Implementation of this alternative would not adversely affect mineral exploration or production because mineral leasing, location of mining claims and mineral developments could occur without restriction for the protection of wilderness values.	The portion to the projected 10 to 50 million barrels of oil and 60 to 300 billion cubic feet of natural gas in the pre-FLPMA leases in the WSA could be produced. Recovery of an unknown but locally significant amount of oil and gas would be foregone because only 1.4 percent (695 acres) of the WSA could be developed for oil and gas.
Impacts on Wildlife Habitat and Populations	Wildlife would benefit from a reduced acreage of surface disturbance when compared to the No Action/No Wilderness Alternative. Only 0.2 percent (124 acres) of the habitat in the WSA would be disturbed. Wildlife would not receive the additional benefit of solitude on the 34,305 acres not designated. Crucial deer winter range would be disturbed. Special status species would not be significantly affected because protective measures and mitigation would be required.	Surface disturbance on 0.4 percent (184 acres) of the habitat in the WSA may displace or reduce populations of some wildlife species during the lifetime of the projects. Crucial deer winter range would be disturbed. Special status species would not be significantly adversely affected because protective measures and mitigation would be required.	Only about 0.07 percent (34 acres) of the habitat in the WSA would be disturbed. Most wildlife species would benefit due to the preservation of solitude and crucial habitat. Special status species would be protected.

# FLUME CANYON WSA

**Table 4 (Continued)**  
**Comparative Summary of Impacts by Alternative**

Issue Topic	Alternatives		
	Recommendation Partial Wilderness (16,495 Acres)	No Action/No Wilderness	All Wilderness (50,800 Acres)
Impacts on Livestock Management	Livestock management practices and grazing levels would not be significantly affected.	With this alternative, there would be no changes in livestock use or management techniques. Surface disturbances resulting from mineral exploration and development would reduce forage production by about 7 AUMs per year. This would not significantly impact grazing.	No change in livestock authorization would occur with this alternative. Restrictions on predator control would result in slightly increased costs of livestock management for two livestock permittees in two sheep allotments.
	Present economic trends and conditions would not be significantly affected. The length of oil and gas employment in the WSA would be reduced because oil and gas could not be developed on 32 percent of the area. Livestock sales and grazing fees would not be affected. Potential annual Federal and State revenues from oil and gas leasing payments from leases in the nondesignated area and on pre-FLPMA leases in the designated area would not be reduced, but potential royalties of up to \$100,000 per year from wells on 32 percent of the WSA would be foregone. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. Federal revenues from commercial recreation fees (currently \$150 annually) would continue and probably increase.	Present economic trends and conditions would not be affected. Oil and gas exploration and development would increase employment in Grand County by 1.0 percent (40 jobs) by the year 2010. There would be only minor changes in local economic conditions. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. The WSA could contribute up to \$38,080 annually in local livestock sales and \$2,933 in grazing fees. Oil and gas leasing fees and royalty payments could contribute from \$101,600 to over \$250,000 per year in Federal and State revenues. Federal revenues (currently \$150 per year) from commercial recreation use would continue.	Present economic trends and conditions would not be significantly affected. Employment for oil and gas exploration and development would be reduced by 30 jobs, 0.75 percent of the projected Grand County employment in the year 2010, as compared to the No Action/No Wilderness Alternative. Potential annual local sales and revenues related to livestock grazing would continue at \$30,080 and \$2,933 respectively. Potential annual Federal and State revenues from oil and gas leasing fees could be reduced by \$99,490 and potential royalties of up to \$100,000 per year from wells on 99 percent of the WSA would be foregone. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. Federal revenues from commercial recreation fees (currently \$150 annually) would continue and probably increase.
Impacts on Economic Conditions	Present economic trends and conditions would not be significantly affected. The length of oil and gas employment in the WSA would be reduced because oil and gas could not be developed on 32 percent of the area. Livestock sales and grazing fees would not be affected. Potential annual Federal and State revenues from oil and gas leasing payments from leases in the nondesignated area and on pre-FLPMA leases in the designated area would not be reduced, but potential royalties of up to \$100,000 per year from wells on 32 percent of the WSA would be foregone. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. Federal revenues from commercial recreation fees (currently \$150 annually) would continue and probably increase.	Present economic trends and conditions would not be affected. Oil and gas exploration and development would increase employment in Grand County by 1.0 percent (40 jobs) by the year 2010. There would be only minor changes in local economic conditions. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. The WSA could contribute up to \$38,080 annually in local livestock sales and \$2,933 in grazing fees. Oil and gas leasing fees and royalty payments could contribute from \$101,600 to over \$250,000 per year in Federal and State revenues. Federal revenues (currently \$150 per year) from commercial recreation use would continue.	Present economic trends and conditions would not be significantly affected. Employment for oil and gas exploration and development would be reduced by 30 jobs, 0.75 percent of the projected Grand County employment in the year 2010, as compared to the No Action/No Wilderness Alternative. Potential annual local sales and revenues related to livestock grazing would continue at \$30,080 and \$2,933 respectively. Potential annual Federal and State revenues from oil and gas leasing fees could be reduced by \$99,490 and potential royalties of up to \$100,000 per year from wells on 99 percent of the WSA would be foregone. Recreation-related local sales could contribute up to \$12,485 annually to the local economy by the year 2020. Federal revenues from commercial recreation fees (currently \$150 annually) would continue and probably increase.

# FLUME CANYON WILDERNESS STUDY AREA

Appendix  
Estimated Costs of Acquisition of Non-Federal Holdings Within Areas Recommended for Designation <sup>a</sup>

Legal Description (Prior to any Subdivision)	Total Acreage	Number of Owners (If Parcel has been subdivided)	Type of Ownership by Estate (Federal, State, Private, Other) (Surface Estate) (Subsurface Estate)	Presently Proposed for Acquisition (Yes, No)	Preferred Method of Acquisition (Purchase, Exchange, Other)	Estimated Cost of Acquisition (Land Costs)	Estimated Cost of Acquisition (Processing Costs)
T. 17 S., R. 22 E., Sec. 32	640.00		State	No	Exchange		\$2,000
T. 17 S., R. 22 E., Sec. 36	640.00		State	No	Exchange		\$2,000
T. 18 S., R. 22 E., Sec. 2	647.64		State	No	Exchange		\$2,000

<sup>a</sup> The estimated costs listed in this appendix in no way represent a Federal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.